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DOI:

[10.1080/00224499.2017.1384785](https://doi.org/10.1080/00224499.2017.1384785)

Document Version

Peer reviewed version

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Citation for published version (APA):

Green, L., Rimes, K. A., & Rahman, Q. (2018). Beliefs About Others' Perceptions—Gender Typicality: Scale Development and Relationships to Gender Nonconformity, Sexual Orientation, and Well-Being. *JOURNAL OF SEX RESEARCH*, 55(7), 837–849. <https://doi.org/10.1080/00224499.2017.1384785>

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Beliefs about Others' Perceptions—Gender Typicality: Scale Development and Relationships to
Gender Nonconformity, Sexual Orientation, and Well-Being

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KEY WORDS: gender nonconformity, sexual orientation, bisexuality, distress, gender roles

ABSTRACT

The purpose of this study was to develop a measure of “other-perceived” gender typicality and test its relationship with gender nonconformity, sexual orientation, and psychological distress. Data on these variables were collected from 632 participants (142 heterosexual men, 77 gay men, 50 bisexual men, 174 heterosexual women, 85 lesbian women, and 104 bisexual women). We designed a Beliefs about Others’ Perceptions–Gender Typicality (BOP-GT) scale on which participants reported how masculine or feminine they thought other people perceived their gendered behavior, interests, appearance, and activities. Factor analysis identified 5 factors: Appearance, Emotional Response, Sporting Interests, Occupational Interests, and Interpersonal Style. Recalled childhood gender nonconformity (CGN) was significantly associated with each BOP-GT sub-scale. Heterosexual men rated that other people perceived them to be more masculine scoring on BOP-GT compared to heterosexual women. Gay men and lesbian women show cross-sexed patterns on BOP-GT Total Scale, Appearance, Emotional Response, and Sporting Interests scores. Bisexual men and women were generally no different to the other male and female groups respectively. Bisexual women had greater distress scores and the BOP-GT Emotional Response subscale was associated with somewhat greater distress scores. The BOP-GT measure may have use in future research on understanding gendered self-concepts.

INTRODUCTION

The relationship between gender nonconformity, sexual orientation, stigma, and mental health outcomes is receiving growing interest. Gender nonconformity appears to be negatively linked with mental health outcomes, with some research indicating the association to be stronger for males than for females (Roberts, Rosario, Corliss, Koenen, & Austin, 2012; Roberts, Rosario, Slopen, Calzo, & Austin, 2013; Skidmore, Linsenmeier, & Bailey, 2006). Research also suggests a complex interaction between sexual orientation and gender nonconformity in predicting poorer mental health (Rieger & Savin-Williams, 2012). Several lines of evidence support the hypothesis that gay men and lesbian women are, on average, gender nonconforming in their sex-typed behaviors, interests, and feelings compared to heterosexual people during childhood and adulthood (Bailey & Zucker, 1995; Lippa, 2000). Childhood gender nonconformity (or CGN) among homosexual adults has been robustly evidenced in prospective and retrospective studies (Bailey & Zucker, 1995; Rieger, Linsenmeier, Gygax, & Bailey, 2008). Homosexual and bisexual adults also report poorer mental health compared to heterosexual men and women (Cochran, Mays & Sullivan, 2003; Frisell, Lichtenstein, Rahman, & Langstrom, 2010).

Gender nonconformity may be an important factor in explaining why some homosexual and bisexual men and women have poorer mental health than heterosexual people. One study comparing across heterosexual and non-heterosexual men and women has shown that gender nonconformity in childhood and adolescence was negatively associated with psychological well-being (Rieger & Savin-Williams, 2012). Neither sex nor sexual orientation were significant predictors of well-being. Another study suggested that both gender nonconformity and same-sex attractions were associated with psychiatric symptoms in men and women (Alanko et al., 2009). Ploderl and Fartacek (2009) reported that CGN was significantly associated with current

suicidality among non-heterosexual participants but not among heterosexuals. One longitudinal study found that self-reported CGN was a strong predictor of depression starting in adolescence, particularly among heterosexuals and males (Roberts et al, 2013). This study indicates that the role gender nonconformity plays in mental health is not only limited to non-heterosexuals.

However, the extant literature has several limitations. Few studies use standardized measures or structured psychiatric interviews. Many studies have collapsed LGB individuals across sexual orientation and sex. This may mask important differences between non-heterosexual groups.

The link between gender nonconformity and poorer mental health may be due to experiences of stigmatization. Children and adolescents who are gender nonconforming as children are more likely to suffer rejection from others, including peers and family members (Fagot, 1985; Langlois & Downs, 1980; Smith & Leaper, 2006). Peers (especially same-sex peers) appear to be particularly stigmatizing of gender-nonconforming behaviors and this pattern is stronger for boys (Fagot, 1985; Langlois & Downs, 1980; Young & Sweeting, 2004). Studies in young adults who were gender nonconforming suggest that experiences of stigmatization (e.g., homophobic name calling) partially mediate the relationship between gender nonconformity and poorer mental health (e.g., Baams, Beek, Hille, Zevenbergen, & Bos, 2013).

These lines of evidence suggest that how other people view gender nonconforming behaviors, and how they respond to them (e.g., via overt or covert stigmatizing behaviors), explains part of the association between gender nonconformity and mental health. It is possible that perceived gender nonconformity, like perceived race, is an external cue used for the rapid social categorization of an individual based on sex-typed behaviors, interests, appearance, and interpersonal styles (Rieger, Linsenmeier, Gygax, Garcia, & Bailey, 2010). These social judgements in turn may relate to specific health outcomes in populations judged as gender

nonconforming. Targets perceived as gay or lesbian tend to be evaluated more harshly than those categorised as heterosexual and this anti-gay bias may appear early in person perception (Talley & Battencourt, 2008). Thus, people can be targets of stigma and discrimination not only when they identify themselves but also when they are perceived to be a sexual minority.

Another mechanism by which gender nonconformity may contribute to distress is through anticipated negative reactions by others. As a result of stigmatizing experiences, gender nonconforming individuals may have greater expectations of negative reactions from others than people who are gender conforming. These more negative expectations may contribute to anxiety or other forms of distress. However, there are no studies to our knowledge examining the impact of beliefs about how others perceive one's gender nonconformity on sexual orientation group differences in distress. Thus far, the literature appears to have focused on "trait" gender nonconformity (an individual's rating of their own level of gender nonconformity) rather than on what people think others perceive their gender nonconformity to be. A person's trait levels of gender nonconformity and their sense of what others perceive that level of gender nonconformity to be could be two different, if overlapping, constructs. We know of no established measures of perceptions about whether other people view oneself as gender conforming or nonconforming.

Based on the literature review above, we present evidence on a newly developed self-report measure of beliefs about others' perception of gender typicality (BOP-GT) in heterosexual, homosexual, and bisexual adults. We have chosen the term "gender typicality" in reference to this measure because we expected average statistical sex differences to emerge as well as within-sex variation (e.g., attributable to sexual orientation). Our new measure also asks about gender typicality in adulthood. This choice of terminology is different to "gender nonconformity" because this term is most often used in the literature to refer to childhood (e.g.,

CGN; Bailey & Zucker, 1995). Thus we keep a linguistic distinction, if somewhat arbitrary, between the two terms here because of convention in the literature and the different time periods that each measure focuses on. We also conceptualize BOP-GT as somewhat different to CGN because we expect it to tap gendered self-concepts or beliefs about gender presentation to others. Those beliefs in turn may be associated with other psychological processes (e.g., expectations of rejection or rumination) hypothesized to be important mediators between stigma and mental health problems in cognitive models of distress among sexual minorities (Hatzenbuehler, 2009). In contrast CGN is a more trait-based, intrinsic measure (Bailey & Zucker, 1995). Trait CGN may of course be related to differences in psychological distress, because of the strong developmental association between CGN and sexual orientation. But we might also expect that peoples' self-beliefs or self-concepts about their, somewhat intrinsically derived, gender nonconformity as adults to show variation which is meaningfully related to hypothesized mediators in cognitive models of distress. For example, some gay adults who are gender nonconforming might have very positive beliefs about their gender presentation and so experience less distress whereas others might have negative beliefs about their gender and experience more distress even though their CGN is fundamentally intrinsic.

The choice of gender-typed content domains for the BOP-GT derives from the large literature on gender roles and “masculinity” and “femininity” (Lippa, 2005; Spence & Buckner, 1995). These have been defined in various ways but the parameters include appearance, activity and occupational interests, peer preferences, relational styles, vocal patterns, nonverbal displays, and sex-dimorphic personality attributes (e.g., Balliet, Li, Macfarlan, & Van Vugt, 2011; Bem, 1974; Spence & Helmreich, 1978; Berenbaum, 1999; Gurtman & Lee, 2009; Lippa, 1998; Rose & Rudolph, 2006). In line with this literature we conceptualize masculinity and femininity as

opposite poles on a single quantitative dimension (Lippa, 1991). Self-ratings on such single dimensions correlate well with sex-typed occupational interests (Lippa, 1991; Lippa, 1995a; Lippa, 1995b), recalled CGN (Bailey, Dunne, & Martin, 2000), and third-party ratings of child and adult gender typicality (Rieger et al., 2008; Rieger et al., 2010) and so have good construct validity. Note that we are mindful that the gender traits examined in this study should not be assumed to be universal and culturally invariant. Scholars in the social sciences and anthropology have noted much diversity in gender expression and perceptions of masculinity and femininity across cultures and time. Thus, in interpreting the outcomes of the present study, readers should be aware that they do not necessarily translate to other cultures, times, and places.

As this study is exploratory, we remain cautious in setting out directional predictions. Nonetheless, based on the literature we predict that heterosexual men and women will be more gender conforming on the BOP-GT than homosexual and bisexual men and women. We also predict the same pattern of differences in a typical measure of CGN. We investigate the internal consistency, test-retest reliability, and validity of the new questionnaire. Both homosexual and bisexual people are predicted to score higher on distress than heterosexuals. Finally we test for any associations between BOP-GT, CGN, and sexual orientation to distress.

METHOD

Participants

A total of 632 participants (age range, 16-74 years, $M = 28.69$, $SD = 11.04$) were recruited online through social networking platforms, college recruitment requests (via King's College London, UK), and list serves including SexNet and the Social Psychology Network. The final sample consisted of 142 heterosexual men, 77 gay men, 50 bisexual men, 174 heterosexual women, 85 lesbian women, and 104 bisexual women.

Sexual orientation was assessed using self-identification (gay/lesbian, heterosexual/straight, bisexual, or other) and a single-item question about sexual feelings (defined as attractions and fantasies) on a 7-point scale (1 = exclusively heterosexual, 7 = exclusively homosexual). Participants who responded 1 or 2 (heterosexual), 3 to 5 (bisexual), and 6 or 7 (homosexual), and checked either “heterosexual/straight”, “bisexual”, or “gay/lesbian” on self-identification were included as heterosexual, bisexual, gay/lesbian. However, several participants labelled themselves using other identity labels (e.g., “bicurious”, “pansexual”, “queer”, and “I’m sexually fluid”) under a free-field “other” option on the sexual identification item. We reclassified these participants into heterosexual, bisexual or gay/lesbian categories using their responses to the sexual feelings item in order to increase power in the non-heterosexual categories. Kinsey scales are usually highly reliable and so classifying participants who do not give informative self-identification labels based on their Kinsey scores is appropriate. Twelve of these “other identified” individuals were reclassified as heterosexual (responding 1 or 2 on the sexual feelings item), 28 individuals were reclassified as bisexual (responding 3 to 5 on sexual feelings), and 12 were reclassified as gay/lesbian (responding 6 or 7 on sexual feelings). We excluded anyone self-labelling as “asexual” and “transsexual/transgender” ($N = 28$).

Age and ethnicity was also recorded. Ethnicity was classified (at the request of our research ethics committee) using ethnic group classifications from the 2011 United Kingdom Census including the categories “British”, “Irish”, “Any other white background”, “White and black Caribbean”, “White and black African”, “White and Asian”, “Any other mixed ethnic background”, “Indian”, “Pakistani”, “Bangladeshi”, “Chinese”, “Any other Asian background”, “Caribbean”, “African”, “Any other black background”, “Arab”, and “Any other ethnic group”.

Measures and Procedure

All participants provided informed consent by check-box via an online survey which also recorded their responses. The survey took about 20 minutes to complete. Participants were not compensated for their time. The study received ethical approval from the King's College London Psychiatry, Nursing and Midwifery Research Ethics Committee (PNM/13/14-32).

Recalled Childhood Gender Nonconformity (CGN)

This was measured using a 10-item scale which asked participants to rate their sex-typical behavior, interests and activity levels from as early as they could remember up to 12 years of age on a 5-point scale. The items were based on those published by Zucker et al. (2006) that were most sensitive to sex differences (Meyer-Bahlburg et al., 2006) with wording amended for use in a British sample (e.g., Hassan & Rahman, 2007; Rahman, Bhanot, Emrith-Small, Ghafoor, & Roberts, 2012). An example item is "As a child, I enjoyed playing rough physical sports such as football (soccer), hockey or rugby" to which responses range from "Almost always" to "Never." High average scores reflected feminine childhood behavior and interests.

Psychological Distress (Depression, Anxiety and Stress)

This was measured using the Depression Anxiety Stress Scales (DASS-21; Henry & Crawford, 2005). This is a short-form of a previously published 42-item measure (Lovibond & Lovibond, 1995). The instrument was used to generate four scores: Depression, Anxiety, Stress and a composite of Overall Distress. Example items include "I felt down-hearted and blue" and "I felt I was close to panic" to which responses on a 4 point scale range from "Did not apply to me at all" to "Applied to me very much, or most of the time". High average scores represent more depression, anxiety, stress or overall distress. This measure has excellent psychometric properties and predicts levels of all four distress variables in community, population and clinical samples (Brown et al, 1997). Note we focus on "internalizing" symptoms rather than

“externalizing” type symptoms because the bulk of the literature on sexual orientation and mental health is on the former.

Beliefs about Others’ Perceptions–Gender Typicality (BOP-GT)

Participants completed a new Beliefs about Others’ Perceptions–Gender Typicality (BOP-GT) questionnaire pertaining to an individual’s judgement about how other people perceive his or her gender typicality across a range of behaviors, interests, hobbies, appearance, gestures, interpersonal styles (e.g., emotional responses), and activity levels. The authors generated the items based on previous literature on gender nonconformity research and measurement, such as oft-used CGN scales (Zucker et al., 2006). Additionally, we decided the questionnaire should: be short enough to be used in clinical settings and in further research; have unambiguous language to ensure that individuals from different educational and national backgrounds would understand; and that both men and women (heterosexual and non-heterosexual) can answer the questions. Participants were asked to respond to the following instructions: ‘Please answer the following questions (tick/circle the most appropriate option) about how you think *other people* in general (not one specific person or class of persons) view you, your behavior, and interests’ to which responses on a 5-point scale ranged from 1 (“very masculine”) to 5 (“very feminine”). Participants were not given an option to indicate that the item did not apply to them or an option to indicate departures from binary gender (e.g., “neither masculine nor feminine”). High scores on this measure reflect more perceived femininity. Example items include “People perceive my appearance to be...” and “People perceive my sporting interests to be...” A 48 item pool was initially included, which were analyzed and reduced to 15 items as described below. See Appendix for the final version of the questionnaire.

Statistical Analysis

Factor analysis was used for the purposes of data reduction on the BOP-GT scale. Group differences (divided by sex and sexual orientation) in BOP-GT subscales, CGN, and distress scores were analyzed using one-way ANCOVA (controlling for age) followed by post-hoc tests with Bonferroni corrected alpha values. Pearson's correlations were used to explore the associations between BOP-GT, CGN and distress separately by sex. To investigate the independent contribution of CGN, BOP-GT and sexual orientation multiple regression analyses were conducted, one each for DASS overall distress, depression, anxiety and stress scores. In each regression, predictor variables were sex, sexual orientation (dummy coded with heterosexuals as the reference group), age, CGN, and BOP-GT sub-scales.

RESULTS

Participant Characteristics

ANOVA revealed a significant group difference in age, $F(5, 631) = 18.61, p < .001$, with heterosexual men being significantly older than heterosexual women (mean difference = 8.60, $SE = 1.16, p < .001$), gay men (mean difference = 5.63, $SE = 1.43, p < .01$), lesbian women (mean difference = 9.83, $SE = 1.41, p < .001$), and bisexual women (mean difference = 9.72, $SE = 1.33, p < .001$) but not bisexual men (mean difference = 1.58, $SE = 1.70, p = 1$; see Table 2). There was no significant group difference in ethnicity collapsed into "white" versus "non-white" categories, $\chi^2(5) = 7.64, p = .17$.

The CGN scale had high internal consistency (Cronbach $\alpha = .87$). There was a significant group difference in CGN averaged scores, $F(5, 631) = 77.00, p < .001$ (Table 3 and 4). Heterosexual men were significantly more masculine on CGN than all groups ($ps < .001$) except bisexual men ($p = .07$). Heterosexual women were significantly more feminine on CGN than all other groups ($ps < .01$). Gay men were significantly more feminine on CGN than heterosexual

men ($p < .001$), more masculine than heterosexual and bisexual women ($ps < .001$) and no different to lesbian women and bisexual men ($ps > .10$). Lesbian women were significantly more masculine on CGN than heterosexual and bisexual women ($ps < .001$), more feminine than heterosexual men ($ps < .001$), and no different to gay and bisexual men ($p > .10$). Bisexual men were more masculine on CGN than heterosexual and bisexual women ($ps < .001$) but no different to the male groups or lesbian women ($ps > .05$). Bisexual women were more feminine than the other groups ($ps < .001$) but somewhat more masculine than heterosexual women ($p = .014$).

Factor Analysis of BOP-GT Scale

The data were shown to be suitable for structure detection through factor analysis (Kaiser–Meyer–Olkin [KMO] = .97, Bartlett’s test $p < .001$). The criteria used to determine our factor extraction and solutions include a Kaiser’s criterion of eigenvalues greater than 1.0; visual inspection of the scree plot for points of inflexion; total percentage of variance explained by each factor; factor loading cut-offs of .40; no cross-loadings greater than or equal to .35, and a minimum loading of three items on each factor (Floyd & Widaman, 1995). We used an oblique rotation in a principal components (PCA) extraction. Initial analysis indicated 7 factors with eigenvalues greater than 1.0 and together accounting for 66.85% of the variance. Two of these factors were poorly defined (only 2 items loaded above 0.4 on both of these factors, with some cross-loadings above .35) so we chose to analyze further a simpler 5-factor solution (inspection of the scree plot supported this approach). The final five factor solution accounted for 67.73% of the variance, and the initial eigenvalues and percentage of variance explained were: Factor 1, labelled “Appearance” (eigenvalue = 16.42, 48.30 % of variance); factor 2, “Emotional Response” (eigenvalue = 2.40, 7.07 % of variance); factor 3, “Sporting Interests” (eigenvalue = 1.65, 4.85% of variance); factor 4, “Occupational Interests” (eigenvalue = 1.42, 4.18 % of

variance); and factor 5, “Interpersonal Style” (eigenvalue = 1.13, 3.33 % of variance). We choose the three highest loading items from each factor to generate a 15-item measure with 5 subscales (Table 1). Where item loadings reflected similar concepts, such as “My dress sense” and “The clothing I wear” we chose the next item highest loading item which captured a more discriminating gendered item. The inter-scale correlations ranged from .38 to .56 which indicates that whilst the scales correlate moderately with each other, this is not overly high. Sub-scales correlated highly with Total Scale score (Table 2). Item-total correlations were high (Table 1) indicating that each item measured the same construct as the factor itself.

Reliability of BOP-GT Scale

The five-factor scale had a Cronbach’s α of .91; Appearance had a Cronbach’s α of .93; Emotional Response had a α of .84; Sporting Interests had a α of .82; Occupational Interests’ α was .81; and Interpersonal Style had an α of .72. Correlations for test-retest reliability ($N = 20$ completing the measure on two occasions, 10 days apart) were high for the overall Total Scale score ($r = .97$). They were also high for each sub-scale: Appearance ($r = .94$); Emotional Response ($r = .94$); Sporting Interests ($r = .98$); Occupational Interests ($r = .88$); and Interpersonal Style ($r = .77$).

Relationship between BOP-GT and CGN

To help evaluate the validity for the BOP-GT scale, its association with the CGN was calculated. CGN scores were significantly and positively associated with each BOP-GT sub-scale: Appearance, $r(632) = .68, p < .001$; Emotional Response, $r(631) = .48, p < .001$; Sporting Interests, $r(631) = .65, p < .001$; Occupational Interests, $r(631) = .44, p < .001$; and Interpersonal Style, $r(629) = .43, p < .001$. CGN was also significantly and positively associated with BOP-GT Total Scale score, $r(632) = .73, p < .001$.

Group Differences in BOP-GT sub-scales

There were significant group differences for each of the 6 BOP-GT scales (Table 3 and 4). On BOP-GT Total Scale scores, post-hoc analyses indicated that heterosexual men rated themselves as significantly more masculine compared to all groups ($ps < .001$) but were no different from bisexual men ($p = .06$). Heterosexual women rated themselves as significantly more feminine compared to all groups ($ps < .001$) and bisexual women ($p = .04$). Gay men rated themselves as more feminine compared to heterosexual men ($p < .01$), more masculine compared to the female groups ($ps < .001$) and were no different from bisexual men ($p > .10$). Lesbian women rated themselves as more masculine compared to heterosexual women ($p < .001$), more feminine compared to the male groups ($ps < .001$), and were no different from bisexual women ($p > .10$). Bisexual men rated themselves as more masculine compared to the female groups ($ps < .001$), and were no different from gay or heterosexual men ($p > .05$). Bisexual women rated themselves as more feminine compared to all male groups ($ps < .001$), more masculine than heterosexual women ($p = .04$) and no different to lesbian women ($p > .10$).

On the Appearance sub-scale, heterosexual men rated themselves as significantly more masculine compared to the female groups ($ps < .001$) but were no different to the male groups ($ps > .10$). Heterosexual women rated themselves as significantly more feminine compared to all groups ($ps < .001$) except bisexual women ($p = .24$). Gay men rated themselves as more masculine compared to the female groups ($ps < .001$) and were no different from the male groups ($ps > .10$). Lesbian women rated themselves as more feminine compared to the male groups ($ps < .001$) but more masculine compared to the female groups ($ps < .01$). Bisexual men rated themselves as more masculine compared to the female groups ($ps < .001$) and were no different

from the male groups ($ps > .10$). Bisexual women rated themselves as more feminine compared to all groups ($ps < .01$) except heterosexual women ($p = .24$).

On the Emotional Response sub-scale, heterosexual men rated themselves as significantly more masculine compared to all groups ($ps < .01$). Heterosexual women rated themselves as significantly more feminine compared to the male groups ($ps < .001$), more feminine than lesbian women ($p = .04$), but were no different from bisexual women ($p > .10$). Gay men rated themselves as more feminine compared to heterosexual men ($p = .02$), more masculine than the female groups ($ps < .01$), and no different from bisexual men ($p > .10$). Lesbian women rated themselves as more feminine compared to heterosexual men ($p < .001$) and gay men ($p = .01$), more masculine than heterosexual women ($p = .04$), and no different to bisexual men or women ($ps > .10$). Bisexual men rated themselves as more feminine compared to heterosexual men ($p = .01$), more masculine compared to heterosexual and bisexual women ($ps < .01$), but no different to gay men or lesbian women ($ps > .10$). Bisexual women rated themselves as more feminine compared to the male groups ($ps < .01$) but were no different from the female groups ($ps > .10$).

On Sporting Interests, heterosexual men rated themselves as significantly more masculine compared to the other groups ($ps < .001$) but were no different from bisexual men ($p = .22$). Heterosexual women rated themselves as significantly more feminine compared to all groups ($ps < .01$) except bisexual women ($p = .26$). Gay men rated themselves as more feminine compared to heterosexual men ($p < .001$), more masculine compared to heterosexual women ($p < .05$), and no different from any other group ($ps > .10$). Lesbian women rated themselves as more feminine compared to heterosexual men ($p < .001$), more masculine compared to heterosexual women ($p < .001$), and no different from any other group ($ps > .05$). Bisexual men rated themselves as more masculine compared to heterosexual and bisexual women ($ps < .01$) and were no different

from any other group ($ps > .10$). Bisexual women rated themselves as more feminine compared to heterosexual and bisexual men ($ps < .01$) but were no different to any other group ($ps > .05$).

On Occupational Interests, heterosexual men rated themselves as significantly more masculine compared to the female groups ($ps < .001$) and no different from the male groups ($ps > .10$). Heterosexual women rated themselves as significantly more feminine compared to the male groups ($ps < .001$) and no different from the female groups ($ps > .10$). Gay men rated themselves as more masculine than the female groups ($ps < .01$) and were no different from the male groups ($ps > .10$). Lesbian women rated themselves as significantly more feminine compared to the male groups ($ps < .01$) and were no different from the female groups ($ps > .10$). Bisexual men rated themselves as more masculine compared to the female groups ($ps < .01$) and no different from the male groups ($ps > .10$). Bisexual women rated themselves as more feminine compared to the male groups ($ps < .01$) but were no different from female groups ($ps > .10$).

On Interpersonal Style, heterosexual men rated themselves as significantly more masculine compared to the female groups ($ps < .001$) and no different from the male groups ($ps > .10$). Heterosexual women rated themselves as significantly more feminine compared to all groups ($ps < .01$) except lesbian women ($p = .22$). Gay men rated themselves as more masculine compared to the female groups ($ps < .01$) and were no different from the male groups ($ps > .10$). Lesbian women rated themselves as significantly more feminine compared to the male groups ($ps < .05$) but no different from the female groups ($ps > .10$). Bisexual men rated themselves as more masculine compared to heterosexual and lesbian women ($ps < .05$) and were no different from the male groups or bisexual women ($ps > .10$). Bisexual women rated themselves as more feminine compared to heterosexual and gay men ($ps < .01$), more masculine than heterosexual women ($p < .01$), and no different from lesbian women or bisexual men ($p > .10$).

Group Differences in Psychological Distress scores

The DASS had high internal consistency (Overall Distress $\alpha = .93$; Depression $\alpha = .91$; Anxiety $\alpha = .82$; Stress $\alpha = .86$). There were significant group differences for each of the DASS sub-scales (Table 3 and 4). In general, we found bisexual women scored highest on distress. There were few significant differences between heterosexual men and women compared to gay men and lesbian women. Specifically, post-hoc analyses indicated that bisexual women scored significantly higher on Overall Distress than heterosexual women, gay men, and lesbian women ($ps < .01$) but were no different to heterosexual and bisexual men ($p > .10$). On the Depression sub-scale, bisexual women scored significantly higher than heterosexual women ($p = .04$) and gay men ($p < .01$). Gay men scored somewhat lower than heterosexual men ($p = .046$). There were no other differences. On the Stress sub-scale, bisexual women had significantly higher scores than gay men ($p = .001$) and lesbian women ($p = .02$), but were no different to heterosexual men, heterosexual women and bisexual men ($p > .10$). There were no other group differences here. On the Anxiety sub-scale, bisexual women scored higher than heterosexual men ($p = .04$), heterosexual women ($p = .01$), and gay men ($p < .001$), but were no different to lesbian women and bisexual men ($p > .10$). There were no other significant group differences.

Associations between CGN, BOP-GT, and Psychological Distress

Among men, being gay was significantly associated with lower Overall Distress, Depression and Anxiety scores (Table 5). Age was also negatively correlated with Overall Distress, Depression and Anxiety but there were no other significant associations. Among women, BOP-GT Emotional Response scores were positively associated with Stress (Table 6). There was a positive, non-significant trend for CGN to be associated with greater Stress scores. Being bisexual was significantly associated with greater Overall Distress, Depression, Anxiety

and Stress scores. Age was also negatively correlated with Overall Distress, Depression, Anxiety and Stress scores.

Multiple Regression Analysis

The regression model for overall distress scores was significant, $F(10, 618) = 5.96$, $p < .01$ ($R = .30$, $R^2 = .09$, adjusted $R^2 = .07$; see Table 7). Age was strongly associated with distress such that being older was associated with lower distress scores ($p < .001$). Homosexuals had lower distress scores than the heterosexual reference group ($p = .028$) but bisexuals had higher distress scores ($p = .012$). BOP-GT emotional response sub-scale scores were associated with distress such that more feminine scoring was associated with higher distress scores ($p = .040$). No other predictors were significant. The model for depression was also significant, $F(10, 618) = 5.03$, $p < .01$ ($R = .27$, $R^2 = .08$, adjusted $R^2 = .06$). Being older was associated with lower depression scores ($p < .001$). Homosexuals had lower depression scores ($p = .015$) and bisexuals had higher depression scores ($p = .014$) compared to the heterosexual group. BOP-GT sporting interests trended ($p = .043$) with more feminine scores being associated with higher depression scores. No other predictors were significant. The model for anxiety was significant, $F(10, 618) = 6.60$, $p < .01$ ($R = .31$, $R^2 = .10$, adjusted $R^2 = .08$). Again, age was a significant predictor such that being older was associated with lower anxiety scores ($p < .001$). Sex was a significant predictor with women having higher anxiety scores than men ($p = .018$). Bisexuals had higher anxiety scores compared to heterosexuals ($p = .027$). More feminine scores on the BOP-GT emotional response sub-scale were associated with higher anxiety scores ($p = .022$). No other predictors were significant. The model for stress scores was significant, $F(10, 618) = 3.98$, $p < .01$ ($R = .25$, $R^2 = .06$, adjusted $R^2 = .05$). Being older was associated with lower stress scores ($p < .001$). More feminine scores on the BOP-GT emotional response sub-scale were associated

with higher stress scores ($p = .020$). No other predictors were significant. All models excluded BOP-GT appearance sub-scale scores as a predictor.

DISCUSSION

The purpose of this study was to generate a novel self-report measure of Beliefs about Others' Perceptions–Gender Typicality. In addition, we wanted to explore associations between this measure and CGN, sexual orientation, and distress. Note that our measure focused on self-reports from participants about how they believed others saw them and not on how those others objectively viewed the participant (see below). In addition, our study was conducted within a particular cultural context, namely that of a Western Anglo-European country. Thus our findings will not necessarily translate to all cultures, ethnic and social contexts. Factor analysis identified five factors. Factor 1, labelled “Appearance”, contained items related to the general perception of one’s appearance, clothing, and facial features. Factor 2 contained items that appeared to index emotional responsiveness to others and general emotional reactions and so was labelled “Emotional Response”. Factor 3 contained items that captured interest in physical sports, hobbies, and general sporting interest and so was labelled “Sporting Interests”. Factor 4, labelled “Occupational Interests” contained items that indexed ambitions, work, and educational interests. Factor 5, labelled “Interpersonal Style” contained items that appeared to capture relating to others, personal independence, and preference for new experiences. The factor structure appears relatively robust with a large sample size and good participant-to-item ratio (at least 10:1).

In the comparisons between groups, heterosexual men rated themselves as masculine across BOP-GT Total and sub-scales while heterosexual women rated themselves as feminine. Heterosexual men did not differ from bisexual men on BOP-GT Total Scale scores. Heterosexual women also did differ significantly from bisexual women on BOP-GT Total Scale scores but this

difference was small. Gay men rated themselves as more feminine on BOP-GT Total Scale compared to heterosexual men, more masculine than the female groups, and no different to bisexual men. Lesbian women rated themselves as more masculine on BOP-GT Total Scale compared to heterosexual women, more feminine than the male groups, and no different to bisexual women. Gay men and lesbian women showed a mixed pattern of gender atypical self-ratings on some BOP-GT sub-scales but not on others. On Appearance gay men were gender typical and lesbian women gender atypical (masculine scoring). Gay men and lesbian women were gender atypical on Emotional Response and Sporting Interests but gender typical on Occupational Interests and Interpersonal Style. Bisexual men were somewhat gender atypical (feminine scoring) on the Emotional Response sub-scale while bisexual women were gender typical (masculine scoring) on the Interpersonal Style sub-scale. Otherwise, bisexual men and women were generally gender typical in their BOP-GT scores. The groups differed in expected directions on CGN as previously found (Bailey & Zucker, 1995; Zucker et al., 2006). Bisexual men were no different in CGN to men in general and bisexual women were more masculine in CGN than heterosexual women (otherwise, they were feminine compared to the other groups). Thus bisexuals do not appear to sit “in-between” heterosexual and homosexual men and women in their CGN or BOP-GT scores.

Our results offer some limited support for the notion that certain aspects of beliefs about others’ perceptions of gender typicality may be separate from “trait” CGN. The correlations between CGN and BOP-GT sub-scales ranged from .43 to .68. However, the association between CGN and BOP-GT Total Scale scores was high. Thus, further work is needed to test whether the BOP-GT shows sufficient discriminant validity above and beyond trait measures of gender nonconformity. We also found that CGN was not associated with distress scores. BOP-GT scores

were also not strongly associated with distress in general. Feminine BOP-GT emotional response scores were associated with greater overall distress, anxiety, and stress although this is probably expected given this sub-scale taps internalizing type symptoms of psychological distress. Age and one of the dummy coded grouping variables (bisexuals compared to heterosexuals) showed the strongest associations. In all models the variance explained in distress scores by these factors was small. Thus we urge caution in interpreting the results of the regression analyses.

Bisexual women had somewhat greater psychological distress scores than the other groups. These results support previous studies showing that bisexual people are at elevated risk of mental health problems, although that association has not always been found (Marshall et al., 2011 cf. Saewyc et al., 2007). Specifically the results for bisexual women is consistent with growing evidence that this group report greater mental health problems than lesbian women in both community and population samples (Bostwick, Boyd, Hughes, & McCabe, 2010; Colledge, Hickson, Reid, & Weatherburn, 2015). Our results are inconsistent with evidence pointing to elevated rates of mental health problems in gay men and lesbian women in general (Cochran et al., 2003; Fergusson et al., 1999; Saewyc, 2007). However, many of these studies (especially population-level ones) aggregate LGB groups which we did not do. We also better characterized our groups (e.g., using sexual attractions and sexual identity labelling to classify group membership) and used a standardized measure of distress. Our results suggest that researchers should not collapse different populations together and have appropriate reference groups. It is possible that some sampling biases are operating in that perhaps our online sample of gay men and lesbian women were motivated to present themselves as less distressed because of fear of stigmatization of homosexuality with psychopathology. Or perhaps we inadvertently overly sampled gay men and lesbian women who show resilience to experiencing distress.

We did not find significant independent associations between CGN and distress which is inconsistent with several other studies (Alanko et al., 2009; Ploderl & Fartacek, 2009; Roberts et al., 2013; Rieger & Savin-Williams, 2012). However, as LGB people vary considerably in CGN not all will be gender nonconforming and so experience distress. Or perhaps only groups with certain levels of gender nonconformity (e.g., those at the extreme ends of the gender nonconformity distribution) experience distress.

Several methodological limitations of the study must be considered. In our study, we reclassified 28 “other-identified” individuals as bisexuals compared to 12 individuals as heterosexuals and 12 as gay/lesbian. This could have introduced greater error variance into the bisexual group. In addition, it may have been useful to have a “neither masculine, nor feminine” item option to capture people who are more “non-binary”. Other than this we believe our groups were relatively well characterized on the basis of their responses to sexual orientation indicators. All our measures were self-report which could result in inaccurate or socially desirable responding. However, our CGN and BOP-GT measures resulted in expected differences suggesting our samples were not unusual in these respects. Moreover, all measures except the BOP-GT were standardized and often used in the literature. We encourage future researchers to explore further the construct validity of our scale with other gender-related scales (e.g., Mahalik et al., 2003). The BOP-GT and our findings in general should also be seen clearly within the cultural context in which the study was conducted. So we caution against translating our results to other socio-cultural contexts.

A critical issue is that the BOP-GT was solely a self-report measure. That is, the participant was reporting on what they thought other people thought about their levels of gender typicality. A broader issue then (and one relevant to psychometrics in general) is to what extent

did our participants take the perspective of others when completing the BOP-GT items or applied a more trait-based approach to responding (e.g., as one would when endorsing an adjective describing a personality trait)? While we asked participants to explicitly respond in terms of how they thought other people in general (not one specific person or class of persons) perceived them, we have no way of knowing they did this for sure. Thus our measure is not an objective index (e.g., such as would be achieved using third-party ratings) of an individual's gender presentation. It is vital that further investigations compare self-reports with reports from family members, peers or coworkers (or use behavioral observations) for the purposes of cross-validation. This has been done successfully in the area of childhood gender nonconformity (e.g., using home video ratings: Rieger et al., 2008). These third-party ratings (a measure of how others perceive a given individuals gendered behavior and interests) could then be compared with BOP-GT scores which focus more on self-beliefs or self-concepts about an individual's own gendered presentation.

In summary, the results of the present study appear to indicate that a new measure of gender typicality (the BOP-GT) as perceived by others has some good psychometric properties. The factors identified show expected sex and sexual orientation-related differences. We present the questionnaire in the Appendix for others to use freely. Possible uses of the BOP-GT could include investigating whether people's beliefs about how others view their gender typicality may be associated with factors such as internalised homophobia, self-esteem, sexual orientation-related concealment and visibility, cognitive rumination, and general perceived acceptability to others. We also encourage future researchers to test further the discriminant validity of the measure and concordance with third-party ratings of participant's gender typicality.

REFERENCES

- Alanko, K., Santtila, P., Witting, K., Varjonen, M., Jern, P., Johansson A., et al. (2009). Psychiatric symptoms and same-sex sexual attraction and behavior in light of childhood gender atypical behavior and parental relationships. *Journal of Sex Research*, 46, 494-504.
- Baams, L., Beek, T., Hille, H., Zevenbergen, F. C., & Bos, H. M. (2013). Gender nonconformity, perceived stigmatization, and psychological well-being in Dutch sexual minority youth and young adults: A mediation analysis. *Archives of Sexual Behavior*, 42, 765-773.
- Bailey, J. M., Dunne, M. P., & Martin, N. G. (2000). Genetic and environmental influences on sexual orientation and its correlates in an Australian twin sample. *Journal of Personality and Social Psychology*, 78, 524-536.
- Bailey, J. M., & Zucker, K. J. (1995). Childhood sex-typed behavior and sexual orientation: A conceptual analysis and quantitative review. *Developmental Psychology*, 31, 43-55.
- Balliet, N. P., Li, S. J., Macfarlan, M., & Van Vugt, M. (2011). Sex differences in cooperation: A meta-analytic review of social dilemmas. *Psychological Bulletin*, 137, 881-909.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42, 165-172.
- Berenbaum, S. A. (1999). Effects of early androgens on sex-typed activities and interests in adolescents with congenital adrenal hyperplasia. *Hormones and Behavior*, 35, 102-110.
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. *American Journal of Public Health*, 100, 468-475.

- Brown, T. A., Chorpita, B. F., Korotitsch, W., & Barlow, D. H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behavior Research and Therapy*, 35, 79-89.
- Cochran, S. D., Mays, V. M., & Sullivan, J. G. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *Journal of Consulting and Clinical Psychology* 71, 53-61.
- Colledge, L., Hickson, F., Reid, D., & Weatherburn, P. (2015). Poorer mental health in UK bisexual women than lesbians: Evidence from the UK 2007 Stonewall Women's Health Survey. *Journal of Public Health*, 37, 427-437.
- Fagot, B. I. (1985). Beyond the reinforcement principle: Another step toward understanding sex role development. *Developmental Psychology*, 21, 1097-1104.
- Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (1999). Is sexual orientation related to mental health problems and suicidality in young people? *Archives of General Psychiatry*, 56, 876-880.
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7, 286-299.
- Frisell, T., Lichtenstein, P., Rahman, Q., & Langstrom, N. (2010). Psychiatric morbidity associated with same-sex sexual behaviour: influence of minority stress and familial factors. *Psychological Medicine*, 40, 315-324.
- Gurtman, M. B., & Lee, D. L. (2009). Sex differences in interpersonal problems: A circumplex analysis. *Psychological Assessment*, 21, 515-527.
- Hatzenbuehler, M. L. (2009). How does sexual minority stigma “Get under the skin”? A psychological mediation framework. *Psychological Bulletin*, 135, 707-730.

- Hassan, B., & Rahman, Q. (2007). Selective sexual orientation-related differences in object location memory. *Behavioral Neuroscience*, *121*, 625-633.
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*, 227-239.
- Langlois, J. H., & Downs, A. (1980). Mothers, fathers, and peers as socialization agents of sex-typed play behaviors in young children. *Child Development*, *51*, 1237-1247.
- Lippa, R. (1991). Some psychometric characteristics of gender diagnosticity measures: Reliability, validity, consistency across domains, and relationship to the Big Five. *Journal of Personality and Social Psychology*, *61*, 1000-1011.
- Lippa, R. A. (1995a). Do sex differences define gender-related individual differences within the sexes? Evidence from three studies. *Personality and Social Psychology Bulletin*, *21*, 349-355.
- Lippa, R. A. (1995b). Gender-related individual differences and psychological adjustment in terms of the Big Five and circumplex models. *Journal of Personality and Social Psychology*, *69*, 1184-1202.
- Lippa, R. A. (1998). The nonverbal display and judgment of extraversion, masculinity, femininity, and gender diagnosticity: A lens model analysis. *Journal of Research in Personality*, *32*, 80-107.
- Lippa, R. A. (2000). Gender-related traits in gay men, lesbian women, and heterosexual men and women: The virtual identity of homosexual-heterosexual diagnosticity and gender diagnosticity. *Journal of Personality*, *68*, 899-926.

- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behavior Research and Therapy*, 33, 335-343.
- Mahalik, J. R. , Locke, B. D. , Ludlow, L. H. , Diemer, M. A. , Scott, R. P.J. , Gottfried, M. , & Freitas, G. (2003). Development of the conformity to masculine norms inventory. *Psychology of Men and Masculinity*, 4, 3-25.
- Marshal, M. P., Dietz, L. J., Friedman, M. S., Stall, R., Smith, H. A., McGinley, J., Thoma, B. C., Murray, P. J., D'Augelli, A. R., & Brent, D. A. (2011). Suicidality and depression disparities between sexual minority and heterosexual youth: A meta-analytic review. *Journal of Adolescent Health*, 49, 115-123.
- Meyer-Bahlburg, H. F., Dolezal, C., Zucker, K. J., Kessler, S. J., Schober, J. M., & New, M. I. (2006). The Recalled Childhood Gender Questionnaire-Revised: A psychometric analysis in a sample of women with congenital adrenal hyperplasia. *Journal of Sex Research*, 43, 364-367.
- Plöderl, M., & Fartacek, R. (2009). Childhood gender nonconformity and harassment as predictors of suicidality among gay, lesbian, bisexual, and heterosexual Austrians. *Archives of Sexual Behavior*, 38, 400-410.
- Rahman, Q., Bhanot, S., Emrith-Small, H., Ghafoor, S., & Roberts, S. (2012). Gender nonconformity, intelligence, and sexual orientation. *Archives of Sexual Behavior*, 41, 623-630.
- Rieger, G., Linsenmeier, J. A. W., Gygax, L., & Bailey, J. M. (2008). Sexual orientation and childhood gender nonconformity: Evidence from home videos. *Developmental Psychology*, 44, 46-58.

- Rieger, G., Linsenmeier, J. A. W., Gygax, L., Garcia, S. C., & Bailey, J. M. (2010). Dissecting “gaydar”: Accuracy and the role of masculinity-femininity. *Archives of Sexual Behavior*, 39, 124–140.
- Rieger, G., & Savin-Williams, S. (2012). Gender nonconformity, sexual orientation and psychological well-being. *Archives of Sexual Behavior*, 41, 611-621.
- Roberts, A. L., Rosario, M., Corliss, H. L., Koenen, K. C., & Austin, S. B. (2012). Childhood gender nonconformity: A risk indicator for childhood abuse and posttraumatic stress in youth. *Pediatrics*, 129, 410-417.
- Roberts, A. L., Rosario, M., Slopen, N., Calzo, J.P., & Austin, S.B. (2013) Childhood gender nonconformity, bullying victimization, and depressive symptoms across adolescence and early adulthood: An 11-year longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52, 143-152.
- Rose, A. J., & Rudolph, K. D. (2006). A review of sex differences in peer relationship processes: Potential trade-offs for the emotional and behavioral development of girls and boys. *Psychological Bulletin*, 132, 98–131.
- Saewyc, E. M., Skay, C. L., Hynds, P., Pettingell, S., Bearinger, L. H., Resnick, M. D., & Reis, E. (2007). Suicidal ideation and attempts in North American school-based surveys: Are bisexual youth at increasing risk? *Journal of LGBT Health Research*, 3, 25-36.
- Skidmore, C. W., Linsenmeier, J. A. W., & Bailey, J. M. (2006). Gender nonconformity and psychological distress in lesbians and gay men. *Archives of Sexual Behavior*, 35, 685–697.
- Smith, T. E., & Leaper, C. (2006). Self-perceived gender typicality and the peer context during adolescence. *Journal of Research on Adolescence*, 16, 91–103.

- Spence, J. T., & Helmreich, R. L. (1978). *Masculinity and femininity: Their psychological dimensions, correlates, and antecedents*. Austin, TX: University of Texas Press.
- Talley, A. E., & Battencourt, B. A. (2008). Evaluations and aggression directed at a gay male: The role of threat and antigay prejudice. *Journal of Applied Social Psychology*, 38, 647-683.
- Young, R., & Sweeting, H. (2004). Adolescent bullying, relationships, psychological well-being, and gender-atypical behavior: A gender diagnosticity approach. *Sex Roles*, 50, 525–537.
- Zucker, K. J., Mitchell, J. N., Bradley, S. J., Tkachuk, J., Cantor, J. M., & Allin, S. M. (2006). The Recalled Childhood Gender Identity/Gender Role Questionnaire: Psychometric properties. *Sex Roles*, 54, 469-483.

Appendix: The ‘Beliefs about Others’ Perceptions–Gender Typicality’ Questionnaire

Instructions

Please answer the following questions (tick or circle the most appropriate option) about how you think *other people* in general (not one specific person or class of persons) view you, your behavior, and interests.

	Very masculine	Somewhat masculine	Equally masculine and feminine	Somewhat feminine	Very feminine
People perceive my appearance to be ^a					
People perceive my dress sense (e.g., fashion) to be ^a					
People perceive my facial features to be ^a					
People perceive the way I respond when others need emotional support to be ^b					
People perceive the way I respond when other people are upset to be ^b					

People perceive my emotional reactions to be ^b					
People perceive my level of interest in rough, physical sports (e.g., football, rugby, martial arts) to be ^c					
People perceive my sporting interest to be ^c					
People perceive my hobbies and pastimes to be ^c					
People perceive my ambitions to be ^d					
People perceive my occupation (or occupational interests) to be ^d					
People perceive my educational and academic interests (e.g., subjects I like to study) to be ^d					
People perceive my level of independence to be ^e					
People perceive the way I work in teams to be ^e					

People perceive my openness to new experiences (liking of new experiences) to be ^e					
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Note: ^a, appearance sub-scale; ^b, emotional response sub-scale; ^c, sporting interest; ^d, occupational interests; ^e, interpersonal style

Table 1 Five-factor solution for items on Beliefs about Others' Perceptions–Gender Typicality scale (here showing only items with loadings $\geq .40$)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Item-total correlations (each factor)
My appearance to be	.93*					.97
My dress sense (e.g., fashion) to be	.90*					
My facial features to be	.88*					.93
My body shape to be	.88					
My hairstyle to be	.83					
My use of make-up and jewelry to be	.79					
The way I walk to be	.72					
My physical (body) movements to be	.68					
My voice to be	.58					
The way I sit to be	.57					
My facial expressions to be	.52					
My personality to be	.45					

My gestures (e.g., hand movements) to be	.44		
The way I respond when others need emotional support to be	.94*		.89
The way I respond when other people are upset to be	.90*		.89
My emotional reactions to be	.69*		.83
The way I respond when I am upset to be	.66		
My agreeableness (e.g., being kind, warm and considerate) to be	.65		
The way I am with friends to be	.57		
How often I experience negative emotions to be	.56		
My response to stress and problems to be	.47		
The way I respond when I am angry to be	.38		
My level of interest in rough, physical sports (e.g., football, rugby, martial arts) to be	.93*		.91
My sporting interest to be	.93*		.89
My hobbies and pastimes to be	.55*		.76

My energy and activity levels	.44		
My ambitions to be		.74*	.85
My occupation (or occupational interests) to be		.73*	.89
My educational and academic interests (e.g., subjects I like to study) to be		.64*	.82
My level of independence to be		.71*	.84
The way I work in teams to be		.69*	.81
My openness to new experiences (liking of new experiences) to be		.68*	.76
The way I take the lead to be		.66	

* *Items used in final 15-item measure.*

Table 2 Beliefs about Others' Perceptions–Gender Typicality inter-scale and total scale correlations

	Appearance	Emotional Response	Sporting Interest	Occupational Interests	Interpersonal Style
Appearance		.52	.49	.47	.48
Emotional Response	.52		.38	.51	.52
Sporting Interests	.49	.38		.40	.38
Occupational Interests	.47	.51	.40		.56
Interpersonal Style	.48	.52	.38	.56	
Total Scale	.82	.77	.72	.75	.73

Note all $ps < .001$

Table 3 Means, *SD*s, and one-way ANCOVA results (controlling for age) for CGN, psychological distress, and Beliefs about Others' Perceptions–Gender Typicality (BOP-GT) by group

	Heterosexual men (<i>N</i> = 142)		Gay men (<i>N</i> = 77)		Bisexual men (<i>N</i> =50)		Heterosexual women (<i>N</i> = 174)		Lesbian women (<i>N</i> = 85)		Bisexual women (<i>N</i> = 104)		ANCOVA results
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Age	34.79	12.18	29.16	10.24	33.20	13.08	26.18	9.56	24.95	8.82	25.07	8.45	$F(5, 631) = 18.62, p < .001$
CGN	2.13	.46	2.63	.47	2.41	.56	3.39	.57	2.72	.74	3.16	.64	$F(5, 631) = 77.00, p < .001$
Overall Distress ^a	1.73	.48	1.58	.46	1.73	.57	1.77	.57	1.75	.59	2.02	.71	$F(5, 631) = 4.94, p < .001$
Depression ^a	1.81	.75	1.59	.59	1.86	.81	1.77	.68	1.74	.71	2.05	.88	$F(5, 631) = 4.36, p = .001$
Anxiety ^a	1.51	.46	1.38	.40	1.51	.52	1.61	.62	1.67	.64	1.85	.71	$F(5, 631) = 5.20, p < .001$

Stress ^a	1.89	.54	1.78	.61	1.85	.69	1.94	.64	1.86	.63	2.16	.77	$F(5, 631) = 3.38, p = .005$
<i>BOP-GT^b:</i>													
Appearance	1.77	0.66	2.03	0.58	1.99	0.69	4.06	0.72	3.42	1.01	3.84	1.25	$F(5, 631) = 187.09, p < .001$
Emotional Response	2.63	0.76	3.05	0.89	3.10	0.90	3.84	0.82	3.51	0.83	3.71	0.88	$F(5, 630) = 32.89, p < .001$
Sporting Interests	2.48	0.89	3.23	0.93	2.84	0.95	3.65	0.87	3.00	0.96	3.37	0.91	$F(5, 630) = 27.40, p < .001$
Occupational Interests	2.38	0.77	2.59	0.82	2.53	0.81	3.24	0.80	3.08	0.66	3.15	0.76	$F(5, 630) = 20.20, p < .001$
Interpersonal Style	2.35	0.63	2.40	0.66	2.45	0.74	3.10	0.71	2.91	0.59	2.84	0.53	$F(5, 628) = 21.16, p < .001$
Total Scale Score	2.32	0.54	2.64	0.58	2.58	0.48	3.57	0.50	3.18	0.57	3.38	0.50	$F(5, 631) = 92.82, p < .001$

^aDepression Anxiety Stress Scales (DASS-21) scores

^bAbsolute range, 1 (very masculine) to 5 (very feminine)

Table 4 Effect sizes (Cohen's *d*) for group differences in age, CGN, psychological distress, and Beliefs about Others' Perceptions—Gender Typicality (BOP-GT) by group.

	Heterosexual Men cf. Heterosexual Women	Heterosexual Men cf. Gay Men	Heterosexual Men cf. Bisexual Men	Heterosexual Women cf. Lesbian Women	Heterosexual Women cf. Bisexual Women
Age	.79	.49	.13	.13	.12
CGN	2.40	1.08	.57	1.06	.39
Overall Distress	.08	.32	0	.03	.40
Depression	.06	.32	.07	.04	.37
Anxiety	.18	.30	0	.10	.37
Stress	.08	.19	.07	.13	.32
BOP-GT	3.30	.41	.33	.77	.23
Appearance					
BOP-GT Emotional Response	1.52	.52	.59	.40	.15
BOP-GT Sporting Interests	1.33	.83	.40	.72	.32
BOP-GT Occupational Interests	1.09	.27	.19	.21	.11

BOP-GT	1.11	.08	.15	.28	.40
Interpersonal Style					
BOP-GT Total	2.41	.58	.49	.74	.38
Scale Score					

Table 5 Correlations between CGN, BOP-GT, sexual orientation, and psychological distress among men

	Overall Distress	Depression	Anxiety	Stress
	<i>r</i> (df)	<i>r</i> (df)	<i>r</i> (df)	<i>r</i> (df)
CGN	.01 (269)	.01 (269)	.03 (269)	-.01 (269)
BOP-GT Appearance ^a	.04 (269)	.06 (269)	.04 (269)	-.00 (269)
BOP-GT Emotional Response	.05 (268)	-.00 (268)	.10 (268)	.06 (268)
BOP-GT Sporting Interests	.01 (268)	.08 (268)	-.01 (268)	-.06 (268)
BOP-GT Occupational Interests	-.06 (268)	-.07 (268)	.01 (268)	-.07 (268)
BOP-GT Interpersonal Style	.08 (268)	.04 (268)	.03 (268)	.12 (268) [†]
BOP-GT Total Scale score	.04 (269)	.04 (269)	.05 (269)	.02 (269)
Gay men ^b	-.14 (269)*	-.15 (269)*	-.13 (269)*	-.08 (269)
Bisexual men ^b	.04 (269)	.07 (269)	.04 (269)	-.00 (269)
Age	-.17 (269)**	-.18 (269)**	-.14 (269)*	-.09 (269)

[†] $p < .10$; * $p < .05$; ** $p < .01$

^a Higher score indicate more feminine responses.

^b Dummy coded with heterosexual men as the reference group

Table 6 Correlations between CGN, BOP-GT, sexual orientation, and psychological distress among women

Variable	Overall Distress	Depression	Anxiety	Stress
	<i>r</i> (df)	<i>r</i> (df)	<i>r</i> (df)	<i>r</i> (df)
CGN	.08 (363)	.07 (363)	.05 (363)	.10 (363) [†]
BOP-GT Appearance ^a	-.03 (363)	-.04 (363)	-.04 (363)	-.00 (363)
BOP-GT Emotional Response	.07 (363)	.02 (363)	.05 (363)	.10 (363)*
BOP-GT Sporting Interests	.01 (363)	.02 (363)	-.01 (363)	.01 (363)
BOP-GT Occupational Interests	.03 (363)	.04 (363)	.04 (363)	.01 (363)
BOP-GT Interpersonal Style	.00 (361)	.02 (361)	-.01 (361)	.00 (361)
BOP-GT Total Scale score	.02 (363)	.02 (363)	.01 (363)	.04 (363)
Lesbian women ^b	-.07 (363)	-.07 (363)	-.02 (363)	-.10 (363) [†]
Bisexual women ^b	.18 (363)**	.17 (363)**	.16 (363)**	.17 (363)**
Age	-.24 (363)**	-.22 (363)**	-.25 (363)**	-.17 (363)*

[†] $p < .10$; * $p < .05$; ** $p < .01$

^a Higher score indicate more feminine responses.

^b Dummy coded with heterosexual women as the reference group

Table 7 Regression models predicting psychological distress scores

[illegible]

BOP-GT	.027	.050	.040	.020	.064	.023	.068	.050	.098	-.006	.056	-.008
Occupational interests												
BOP-GT	.063	.055	.077	.079	.071	.076	.019	.056	.023	.090	.062	.099
Interpersonal style												
BOP-GT Total scale score	-.305	.170	-.380	-.321	.219	-.312	-.312	.172	-.382	-.281	.192	-.315

Note: All models excluded BOP-GT Appearance sub-scale scores.

* $p < .05$; ** $p < .01$

^a Dummy coded with heterosexuals as the reference group

^b Higher scores indicate more feminine responses.